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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,763

09/23/2003

Xin Jin

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08/21/2006

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EXAMINER

LAU, TUNG S

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/668,763

Applicant(s)

JIN ET AL.

Examiner

Tung S. Lau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 23, 24, 26-38, 40-50 and 52-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23, 24, 26-38, 40-50 and 52-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Pre-Brief Conference**

1. In view of the Pre-Brief Conference requested by the applicant, the conference was held and it was decided that even though the prior arts do teach the claim invention, in view of the current office practice as regarding to 35 U.S.C. 101, and to clarify the rejection for a better appeal later, the prosecution is hereby reopen and the office action set forth below.

### **Joint inventor**

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Claim Rejections - 35 USC § 101***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 101 that form the basis for the rejections under this section made in this Office action:

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of

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matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 23, 24, 26-38, 40-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For instance in claims 23, 37, the method steps of determining battery voltage are data manipulation. This fails to present a concrete, tangible useful result. An example of a concrete, tangible useful result may include displaying, storing for further use, generating a control signal etc. of the determining. The applicant should review the disclosure to determine what type of tangible result is being carried out in this instant application and such limitation be included in the claim.

For further guidance see

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02, ("the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.").

The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that

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represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. Nor can one patent "a novel and useful mathematical formula," *Flook*, 437 U.S. at 585, 198 USPQ at 195; electromagnetism or steam power, *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 113-114 (1853). Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. *O'Reilly*, 56 U.S. (15 How.) at 112-14.

The Federal Circuit held that the mere manipulations of abstract ideas are not patentable. *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58. If a claimed process manipulates only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the claim is not being applied to appropriate subject matter. *Schrader*, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. The Federal Circuit also recognizes that the fact that a nonstatutory method is carried out on a programmed computer does not make the process claim statutory. *Grams*, 888 F.2d at 841, 12 USPQ2d at 1829(claim 16 ruled nonstatutory even

though it was a computer- implemented process). (See MPEP § 2106 and OG Notices: 22 November 2005, Guidelines for Subject Matter Eligibility, <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 26, 34, 35, 31, 32, 33, 36, 37, 40, 41, 44, 46, 47, 48, 49, 54, 55, 56

are rejected under 35 U.S.C. 102(b) as being anticipated by Rompe (U.S. Patent 5,903,856).

#### **Regarding claim 23:**

Rompe discloses a method of estimating a usable battery capacity for a mobile device, comprising: determining one or more operating condition of the mobile device (Col. 5-6, Lines 65-40), determining a present loaded battery voltage of the mobile device (Col. 6, Lines 17-28); determining a present unloaded battery voltage based on the present loaded battery voltage and one or more operating condition (Col. 6, Lines 8-40, fig. 5, PS0-PS4); determining a present battery capacity using the present unloaded battery voltage (Col. 6, Lines 17-28, fig. 5, PS0-PS4) ; determining a loaded operational threshold voltage of the mobile

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device (Col. 6, Lines 28-64, fig. 5, PS0-PS4), the loaded operational threshold voltage being a battery voltage below which an

FIG. 4

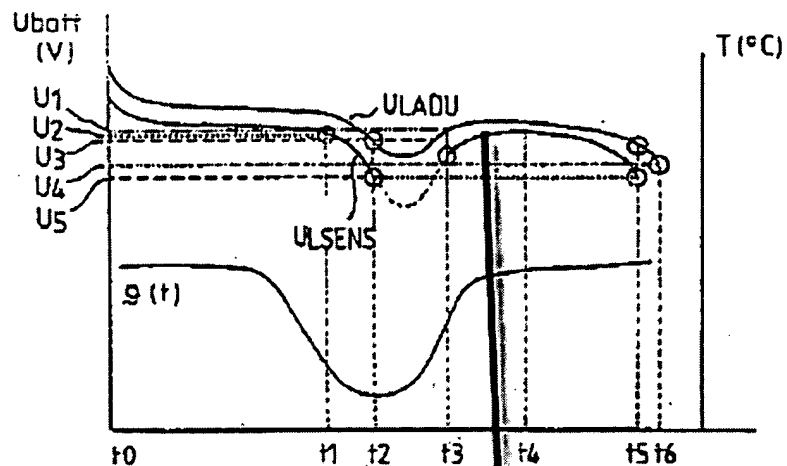
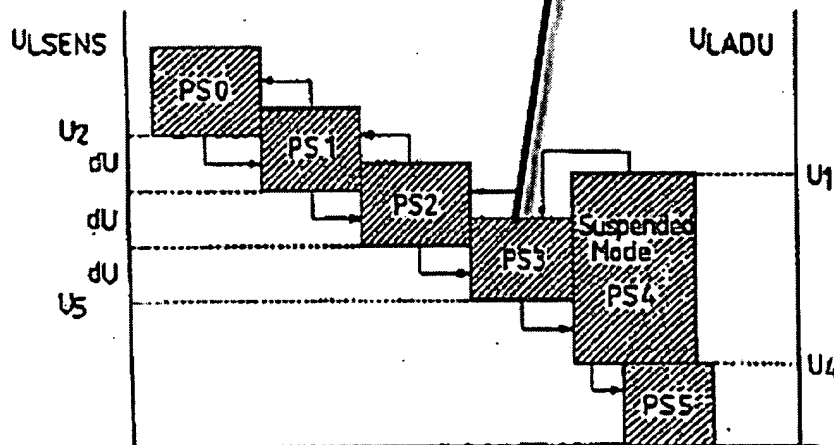


FIG. 5



operation of the

mobile device is shut off (fig. 5, PS4, PS5), and at least one operation of the mobil device remains operable (fig. 5, PS4, PS5); determining an unloaded operational threshold voltage of the mobile device based on the loaded

operational threshold voltage and the one or more operating condition (fig. 5, PS0-PS4); determining an operational threshold capacity using the unloaded operational threshold voltage (fig. 5, PS1-PS4), and estimating the usable battery capacity based on the present battery capacity and the operational threshold capacity (fig. 4, fig. 5, PS0-PS4).

**Regarding claim 37:**

Rompe discloses a method of estimating the capacity of a battery to power a predetermined feature of a battery operated device, the predetermined feature operable when the battery is above a corresponding shut off voltage (fig. 5, PS0-PS4), the method comprising: measuring a battery voltage (fig. 4, 5); determining an unloaded battery voltage by translating the measured battery voltage to take into account a load on the battery (fig. 4, fig. 5, PS0-PS4); determining at least one shut off voltage by translating the shut off voltage to take into account the load on the battery (fig. 5, Col. 6, Lines 17-28, fig. 5, PS0-PS4); determining a battery capacity using the unloaded battery voltage (fig. 5, PS0-PS4); determining a shut off capacity using the unloaded shut off voltage (fig. 5, PS4-PS5); and estimating an estimated capacity for the predetermined feature as a difference between the shut off capacity and the battery capacity (Col. 6-7, Lines 48-14, fig. 4, fig. 5, PS0-PS4); wherein the predetermined feature will shut off if the battery falls below the shut off capacity. And wherein at least one feature of the battery operated device will remain operational if the battery falls below the shut off capacity (fig. 5, PS4, PS5).



**Regarding claim 48:**

Rompe discloses a mobile device, comprising: a battery configured to power the mobile device, one or more sensor circuits configured to measure one or more operating conditions of the battery (fig. 3), a battery voltage measurement circuit configured to measure a present loaded battery voltage of the battery (fig. 5, PS0-PS4); a battery capacity estimation program configured to (1) determine a present unloaded battery voltage based on the present loaded battery voltage and the one or more operating conditions of the battery (fig. 4), and (2) determine a present battery capacity using the present unloaded battery voltage (fig. 4, fig. 5, PS0-PS4); the battery capacity estimation program being further configured to (1) determine a loaded operational threshold voltage of the mobile device, the loaded operational threshold voltage being a battery voltage below which an operation of the mobile device is shut off, but at least one operation of the mobile device remains operational (fig. 5, PS0-PS4) , (2) determine an the loaded operational threshold voltage of the mobile device based on the loaded operational threshold voltage and the one or more operating parameters (fig. 5, PS0-PS4), and (3) determine an operational threshold capacity using the unloaded operational threshold voltage (fig. 5, PS1-PS4); and the battery capacity estimation program being further configured to estimate a usable battery capacity based on the present battery capacity and the operational threshold capacity (fig. 5, PS4-PS5)

**Regarding claim 26**, Rompe discloses the mobile device includes a profile table that relates a plurality of battery profile values with the one or more operating conditions of the mobile device, and wherein the profile table is used to determine the present loaded battery voltage, the present battery capacity, the unloaded operational threshold voltage and the operational threshold capacity (Col. 5, Lines 35-65).

**Regarding claim 34**, Rompe discloses accessing the profile table to translate the operating condition into a battery profile value; adjusting the battery profile value by a correction factor to generate a corrected battery profile value (Col. 4, Lines 24-37); and using the corrected battery profile value to determine the present battery capacity and the operational threshold capacity (Col. 4, Lines 24-37, fig. 4, 5).

**Regarding claim 35**, Rompe discloses resistance of the battery (Col. 4, Lines 48-55).

**Regarding claims 31, 54**, Rompe discloses including temperature (Col. 6, Lines 17-28).

**Regarding claims 32, 55**, Rompe discloses including current (Col. 6, Lines 48-55).

**Regarding claims 33, 56**, Rompe discloses including transmitting power of the mobile device (fig. 5).

**Regarding claim 36**, Rompe discloses remaining time based on capacity (fig. 4, 5).

**Regarding claim 40**, Rompe discloses determining a battery current delivered by the battery (fig. 4, 5); determining a predetermined threshold capacity corresponding to a battery capacity required to continue to deliver the battery current for a predetermined amount of time.(fig. 4, 5); and comparing the estimated capacity to the predetermined threshold capacity (fig. 4, 5).

**Regarding claim 41**, Rompe discloses identifying when the estimated capacity is less than the predetermined threshold capacity (fig. 4, 5); and in response to identifying that the estimated capacity is less than the predetermined threshold capacity (fig. 4, 5), triggering a predetermined action on the battery operated device (Col. 6-7, Lines 48-15, fig. 4, 5).

**Regarding claim 44**, Rompe discloses the predetermined action is displaying the estimated capacity, the estimated capacity being displayed in terms of the predetermined amount of time after which the predetermined function be shut off (Col. 6-7, Lines 56-14).

**Regarding claim 46**, Rompe discloses determining a battery current delivered by the battery occurs at the time of the battery estimation (Col. 6, Lines 48-55).

**Regarding claim 49**, Rompe discloses a profile table stored in one or more memory location on the mobile device and accessible by the battery capacity estimation program (abstract), the profile table relating a plurality of battery profile values with the one or more operating conditions of the mobile device (abstract); wherein the battery capacity estimation program is configured to use the profile table to determine the present unloaded battery voltage (fig. 4, 5), the

present battery capacity (fig. 4, 5), the unloaded operational threshold voltage and the operational threshold capacity (fig. 4, 5).

**Regarding claim 47**, Rompe discloses 47 determining an unloaded battery voltage by translating the measured battery voltage to take into account the load on the battery includes the step of determining at least one operating condition for the battery operated device selected from the group consisting of determining an effective serial resistance for the battery (fig. 4, 5), determining a temperature of the battery operated device (Col. 6, Lines 17-28) , applying a correction parameter, determining the transmit power, and determining an idle state (Col. 4, Lines 24-51).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 24, 38, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rompe (U.S. Patent 5,903,856) in view of Branham (U.S. Patent 4,297,639) .

Rompe discloses the method and device including the subject matter discussed above except use of radio wireless network, Branham discloses radio wireless

network (Col. 1, Lines 20-39), in order to connect mobile devices for easy communication (Col. 1, Lines 20-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rompe to have the use of radio wireless network taught by Branham in order to connect mobile devices for easy communication (Col. 1, Lines 20-39).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Rompe and Branham are analogous art because they try to solve the same problem, manipulating battery power.

**b.** Claims 27, 28, 29, 30, 42, 43, 45, 52, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rompe (U.S. Patent 5,903,856) in view of Weiss (U.S. Patent 5,949,219).

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Rompe discloses the method and device including the subject matter discussed above except issue a warning, Weiss discloses issue a warning (Col. 2, Lines 14-27), in order not to get stranded even having the mobile device (Col. 2, Lines 14-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rompe to have issue a warning taught by Weiss in order not to get stranded even having the mobile device (Col. 2, Lines 14-27).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Rompe and Weiss are analogous art because they are from the same field of endeavor, determining battery condition.

### ***Response to Arguments***

6. Applicant's arguments filed 03/16/2006 have been fully considered but they are not persuasive.

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**A.** Applicants argue in the arguments that the prior art does not show the 'means for measuring battery capacity' (page 2- top of page 4).

Reminds the applicant(s) that claims must be given their broadest reasonable interpretation consistent with the supporting description *In re Hyett*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000); When not defined by applicant in the specification, the words of a claim must be given their plain meaning. In other words, they must be read as they would be interpreted by those of ordinary skill in the art. > *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342, 60 USPQ2d 1851, 1854 (Fed. Cir. 2001). The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration. See MPEP § 716.01(c).

Rompe discloses 'means for measuring battery capacity' in fig. 4 and 5, unit PS0-PS5, where as battery capacity decreases, the load of scanning is decreases as to conserve energy, in PS4, no more scanning of the items, just monitor the voltage takes place, if battery voltage reach level U3 in fig. 4, state will change to PS3 at a reduce scanning of the items (load). Rompe clearly discloses 'means for measuring battery capacity'.

**B.** Applicants continue to argue in the arguments that the prior art does not show the "determining a present unloaded battery voltage based on the present

unloaded battery voltage and one or more operating condition" "determining a present battery capacity using the present unloaded battery voltage",' "determining an operational threshold capacity using the unloaded operational threshold voltage," and "estimating the usable battery capacity based on the present battery capacity and the operational threshold capacity" (page 4, Lines 4-18).

Rompe clearly discloses "determining a present unloaded battery voltage based on the present unloaded battery voltage and one or more operating condition" in fig. 5, state PS0-PS4, where present unloaded battery voltage based on the present unloaded battery voltage and one or more operating condition.

Rompe also clearly discloses "determining a present battery capacity using the present unloaded battery voltage' in fig. 5, PS0-PS4 where Rompe determining a present battery capacity using the present unloaded battery voltage.

Rompe also clearly discloses "determining an operational threshold capacity using the unloaded operational threshold voltage" in fig. 5, PS4, PS5, where Rompe determining an operational threshold capacity using the unloaded operational threshold voltage.

Rompe also clearly discloses "estimating the usable battery capacity based on the present battery capacity and the operational threshold capacity" in fig. 5, PS0-PS4 where Rompe 'estimating the usable battery capacity based on the present battery capacity and the operational threshold capacity".



C. The applicants also argue that the rejection fail to establish a Prima Facie (page 5). The examiner has explain clear above the interpretation of the prior art in view of the technology, Reminds the applicants that the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results, commercial success, solution of along-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the authors of the prior art derived the disclosed subject matter from the applicant. See MPEP § 2145. The Applicants continue to argue that the examiner read too much into the drawing (page 5). Reminds the applicants that USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). And that Limitations appearing in the specification but not recited in the claim are not read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003). And "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)), including drawing and pictures (*Jockmus v.*

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Leviton, 28 F.2d 812 (2d Cir. 1928)). The examiner believe the prima facie case of unpatentability has been established ." In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

**Contact information**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL



MICHAEL NGHIEM  
PRIMARY EXAMINER